CHAPTER-15
INTER BANK ANALYSIS USING MEAN

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ABSTRACT

The results pass on that the wellspring of specialized inefficiency in Indian saving money industry exudes principally because of administrative underperformance in controlling the misuse of inputs underway process pursued by inability to work at ideal scale estimate. As it were, the deterioration of OTE into PTE and SE scores outline that the dimension of PTE on a normal is moderately better when contrasted with the OTE. It is intriguing to layout that banks from 1995-96 to 2012-13 are generally working at the profitable scale estimate. Be that as it may, then again, directors of various banks in different possessions are not ready to influence the utilization of restricted assets in the ideal extent to aside from PSBs. The reason might be the abnormal state of focus in the Indian managing an account part with contribution of around 90 percent of the residential activities in the Indian saving money industry.

Key words- Mean, Cost Efficiency, Technical Efficiency, Allocative Efficiency, Return to Scale

15.1 INTRODUCTION

The study utilized DEA to evaluate the expense and benefit proficiency. Cost proficiency enhanced amid the example time frame while benefit effectiveness experienced a decay. In a developing economy experiencing a procedure of deregulation in term of bank groups, residential banks seem, by all accounts, to be more effective than outside banks. Chatterjee et al., (2016) analyzed the execution of commercial banks in the change time frame with respect to loaning (in a cost minimization system)

making utilization of DEA a non parametric method for 30 commercial banks for the period 2009–13, 2014–16, 2018– 2009 and 2010– 2013. The outcomes demonstrated that the mean cost proficiency of the watched commercial banks had declined in 2012– 2013 significantly, that is, the banks have veered from the best practice cost outskirts. Further the watched private sector banks displayed higher mean cost productivity than the watched open sector banks both in regard of cost effectiveness and allocative proficiency. They credited the result to loaning repugnance conduct by the general population sector banks in the current lawful and administrative condition. Mahesh (2006) endeavored to look at the proficiency level of Indian banks for the period 1985– 2004, a lopsided board of 94 banks for a long time. Banks were isolated into four groups of 12: State Bank of India and partners (SB and A), nationalized banks (NB), private banks (PB) and remote banks (FB). The system of stochastic outskirts analysis was utilized to gauge bank explicit cost, benefit and advance efficiencies. The outcomes demonstrated that deregulation had significant effect on each of the three kinds of productivity measures. Open sector banks (89 percent) rank first in two of the three productivity estimates appearing, instead of the general recognition, these banks don't linger behind their private partners. One reason for PBS being less benefit proficient contrasted with PB was that, PSB spends around 15 percent of their aggregate pay on compensations, though PB spends around 8 percent of their pay on pay rates. Hence, the pay created per representative was higher on account of PB contrasted with PBS. FB was the slightest effective in every one of the three productivity measures. The outcome acquired by them demonstrated the mean level of cost productivity to be 53 percent demonstrating that the banks could have diminished their expenses by 47 percent to deliver a similar yield package than that they have been creating in 2011. In the post change period the banks have enhanced their cost effectiveness by 10 percent. The study worried on banks to attempt the cost review to discover out available resources by which they could enhance their usage of assets. The study dismissed the famous idea that the banks were over staffed.

15.2 INTER BANK ANALYSIS

Despite the fact that, the hole between the specialized efficiency and inefficiency is extensive for all the SCBs and diverse proprietorship gatherings, yet this hole limits with the progression of time in the event of both PTE and SE (aside from 2011-12 and 2012-13). These holes fundamentally exhibit that FSBs outflank PSBs and PrSBs in all efficiency measures over the timeframe. The upgrades in the OTE might be because of the presentation of new changed approaches started by the legislature of India that further

have presented solid challenge in the Indian managing an account industry. Then again, the likely purpose behind inefficiency might be generally because of improper administration rehearses and particularly amid most recent couple of years, it is because of the financial emergency and continuous changes in bank rates and different approaches which upgraded the dimension of rivalry among the banks amid these years. These progressions prompted the slow decrease in total store (funds) and venture level from 19.9 percent, 18.7 percent amid 2008-09 to 13.5 percent and 15.7 percent amid 2011-12 (as support in the prior part). In this manner, being the mandatory segments of the execution of keeping money segment in India, these markers have prompted the wasteful execution of banks in the course of the most recent couple of years and consequently, showed up as one of hotspots for decrease in development rate of India economy.

Further, the examination featured that the normal dimension of AE for SCBs is 59.7 percent, consequently, reflecting 40.3 percent more creation cost by picking off base blend of inputs (given their costs in India). Thus, results demonstrate that in the wake of starting money related changes, the normal efficiency of banks in India for AE has enlisted a few enhancements yet a slow and reasonable decay has been seen in the measure of efficiency till 2005-06. A short time later, slight enhancement has been delineated in the efficiency scores for the all SCBs and diverse proprietorship gatherings. On the comparable lines, normal AE measure for PSBs is 54.7 percent, for PrSBs is 56.4 percent and for FSB is 72.3 percent. Subsequently, moving towards the extending of post-deregulation period, it has been seen that normal allocative inefficiency for PSBs, PrSBs and FSBs is 45.3 percent, 43.6 percent and 27.7 percent separately, which affirms nearness of hotspot for the general inefficiency of banks by attempted wrong input blend over the timeframe. These figures show that on a normal, allocative inefficiency scores among the banks in their separate possessions over the time of study are the prevailing wellspring of inefficiency. These outcomes show that the presentation of budgetary changes amid 1991-92 and 1997-98 along with mechanical changes amid 2002-03 for SCBs in India, there appears harmoniousness with advancement, exhaustive market structure and improved challenge level. In this manner, it has been seen that the wellspring of inefficiency was principally the allocative inefficiency as opposed to the specialized inefficiency. Consequently, managing an account segment in India needs to acquire most extreme yield from a given arrangement of inputs, and utilize the inputs in ideal extents, given their individual costs and the creation innovation so as to work on the effective boondocks. Clearly, there exists huge space for huge cost sparing if Indian banks use and allot their profitable and significant inputs all the more productively.

While assessing productive wilderness for the banks over the timeframe, it winds up relevant to check whether to pool the information in like manner benchmark or not. By and by, there is no suitable strategy to check such disseminations. In this manner to test whether the distinction in the normal cost efficiency and its segments among banks are measurably huge or not, different parametric and non-parametric test are referenced and utilized in the writing As the present investigation pursued non-parametric methodology that does not accept a typical circulation not at all like the comparable to parametric tests, subsequently, the examination connected non-parametric test for testing the speculation. There are distinctive non-parametric tests material as per the example circulation. It incorporates one example test (One example sign test, Chi square test, Kolmogorov-Smirnov test, Run-test); Two example test (two-example sign test, Median test, Mann-Whitney U test) and K test (Kruskal-Wallis test) an augmentation of Mann-Whitney U test

Table 15.1 : Mean Cost, Technical and Allocative Efficiency of Scheduled Commercial Banks in India: Bank-Wise Analysis

PSBs	CE	OTE	PTE	SE	AE	PrSBs	CE	OTE	PTE	SE	AE	FSBs	CE	OTE	PTE	SE	AE
P1	0.458	0.69	0.827	0.856	0.553	Pr1	0.434	0.813	0.868	0.96	0.442	F1	0.659	0.996	0.998	0.997	0.661
P2	0.504	0.821	0.951	0.88	0.531	Pr2	0.504	0.742	0.928	0.809	0.543	F2	0.505	0.66	0.711	0.927	0.71
P3	0.392	0.62	0.746	0.871	0.526	Pr3	0.466	0.648	0.779	0.853	0.599	F3	0.9	0.97	0.981	0.992	0.916
P4	0.41	0.697	0.819	0.881	0.501	Pr4	0.538	0.671	0.832	0.821	0.647	F4	0.397	0.604	0.617	0.987	0.657

P5	0.482	0.797	0.922	0.866	0.523	Pr5	0.43	0.682	0.783	0.88	0.549	F5	0.809	0.982	0.987	0.997	0.82
P6	0.414	0.667	0.79	0.874	0.524	Pr6	0.429	0.677	0.732	0.959	0.546	F6	0.584	0.733	0.772	0.971	0.756
P7	0.437	0.653	0.825	0.803	0.53	Pr7	0.431	0.713	0.787	0.894	0.548	F7	0.866	0.942	0.984	0.963	0.881
P8	0.478	0.751	0.837	0.923	0.571	Pr8	0.394	0.791	0.854	0.947	0.461	F8	0.574	0.803	0.839	0.953	0.684
P9	0.443	0.713	0.846	0.848	0.523	Pr9	0.432	0.81	0.729	0.951	0.592	F9	0.596	0.869	0.943	0.908	0.632
P10	0.462	0.791	0.819	0.947	0.54	Pr10	0.408	0.642	0.78	0.903	0.523	F10	0.779	0.91	0.904	0.974	0.861
P11	0.433	0.553	0.708	0.824	0.616	Pr11	0.454	0.686	0.796	0.905	0.571	F11	0.678	0.89	0.956	0.923	0.707
P12	0.421	0.719	0.828	0.873	0.5	Pr12	0.425	0.686	0.723	0.885	0.588	F12	0.393	0.697	0.756	0.943	0.52
P13	0.476	0.702	0.833	0.857	0.562	Pr13	0.499	0.618	0.814	0.89	0.612	F13	0.784	1	1	1	0.809
P1	0.3	0.8	0.9	0.7	0.4	Pr1	0.4	0.6	0.9	0.7	0.5	F1	0.6	0.9	0.9	0.9	0.7

4	63	75	34	58	06	4	79	44	08	8	28	4	95	49	49	86	32
P15	0.431	0.612	0.836	0.877	0.634	Pr15	0.512	0.664	0.826	0.741	0.62	F15	0.227	0.34	0.432	0.872	0.522
P16	0.44	0.847	0.881	0.977	0.499	Pr16	0.512	0.611	0.899	0.77	0.57	F16	0.58	0.853	0.942	0.903	0.615
P17	0.449	0.867	0.942	0.958	0.476	Pr17	0.413	0.85	0.761	0.945	0.542	F17	0.748	0.985	0.988	0.993	0.757
P18	0.509	0.888	0.957	0.94	0.532							F18	0.455	0.629	0.81	0.803	0.576
P19	0.454	0.787	0.872	0.885	0.52							F19	0.584	0.692	0.812	0.875	0.713
P20	0.476	0.837	0.915	0.929	0.521												
P21	0.442	0.951	0.996	0.958	0.444												
P22	0.421	0.733	0.878	0.827	0.479												
P23	0.425	0.727	0.836	0.883	0.508												

P24	0.411	0.62	0.794	0.815	0.518											
P25	0.418	0.671	0.83	0.823	0.48											
P26	0.413	0.752	0.872	0.871	0.473										.	

Table 15.2 : Return to Scale

PSBs	IRS	CRS	DRS	PrSBs	IRS	CRS	DRS	FSBs	IRS	CRS	DRS
P1	16	3	1	Pr1	9	11	0	F1	0	18	2
P2	13	6	1	Pr2	10	9	1	F2	11	7	2
P3	17	1	2	Pr3	18	1	1	F3	1	15	4
P4	16	3	1	Pr4	18	0	2	F4	10	5	5
P5	14	4	2	Pr5	18	1	1	F5	1	18	1
P6	16	1	3	Pr6	17	1	2	F6	5	8	7
P7	17	0	3	Pr7	16	4	0	F7	1	15	4

P8	16	4	0	Pr8	4	11	5	F8	7	5	8
P9	15	2	3	Pr9	10	9	1	F9	0	9	11
P10	4	11	5	Pr10	17	1	2	F10	13	4	3
P11	18	1	1	Pr11	14	4	2	F11	1	10	9
P12	12	5	3	Pr12	18	1	1	F12	2	2	16
P13	15	4	1	Pr13	18	2	0	F13	0	20	0
P14	12	7	1	Pr14	18	1	1	F14	1	17	2
P15	6	3	11	Pr15	17	3	0	F15	19	1	0
P16	12	4	4	Pr16	16	2	2	F16	10	8	2
P17	11	7	2	Pr17	15	5	0	F17	0	18	2
P18	14	5	1					F18	10	2	8
P19	10	8	2					F19	16	4	0
P20	13	3	4								
P21	5	14	1								

P22	13	2	5								
P23	13	6	1								
P24	19	1	0								
P25	17	3	0								
P26	16	2	2								

Note: (i) CE, TE and AE stands for cost, technical and allocative efficiency. (ii) OTE, PTE and STE stands for overall technical efficiency, pure technical efficiency and scale technical efficiency (iii) (i) CRS, IRS and DRS stands for constant return to scale, increasing returns to scale, scale decreasing returns to scale (iv) P(i=1-26), Pr (i=1-17) and F (i=1-19) stands for public, private and foreign sector banks

15.3 PERFORMANCE LEVEL AMONG BANKS

An investigation of PSBs, PrSBs and FSBs uncovers that there seems considerable variety over the banks in various efficiency measures. Table 5.5 records out three performing and less performing banks on various execution measures. The arrangement has been made utilizing the quartile scores. The banks underneath the quartile 1 scores in individual gatherings are referenced under less performing class and banks above quartile 3 scores are underneath the classification of entertainers. Further, State Bank of Hyderabad (0.509), Andhra Bank (0.504), Bank of Maharashtra (0.482) in PSBs; Ratnakar Dhanlaxmi Bank (0.538), Ratnakar Bank Limited (0.512), South Indian Bank (0.512) in PrSBs; Bank of America (0.900), Barclays Bank (0.866), Bank of Nova Scotia (0.809) ended up being most effective bets on the CE front (allude Table 5.5). Further, the CE measure in these banks is driven for the most part by OTE as opposed to AE. Moreover, the banks at the base of the stepping stool of CE are Punjab and Sind Bank (0.363), Bank of India (0.410), Bank of

Baroda (0.392) in PSBs; Karur Vysya Bank (0.425), Indusind Bank (0.395), J&K Bank (0.408) in PrSBs; Oman International Bank (0.227), Bank of Bahrain and Kuwait (0.397), Hong Kong and Shanghai Banking Corporation (0.393) in FSBs. It is likewise evident that the real wellspring of cost inefficiency among these banks is AE than OTE. Notwithstanding, in the event of Bank of Bahrain and Kuwait and Oman International Bank, the significant wellspring of inefficiency gives off an impression of being by and large specialized efficiency than allocative efficiency. These banks need to diminish down their input cost in order to work at efficienct cost boondocks. It can likewise be affirmed from the outcomes that remote area banks are performing better on the cost wilderness pursued by private division banks and open part banks.

Table 15.3: Categorization on the Basis of Performance Level (Top and Bottom Three)

	Banks	Efficiency Measures				
		CE	OTE	PTE	SE	AE
	Less Performers					
PSBs	PUNJAB AND SIND BANK	0.363	0.875	0.934	0.758	0.406
	BANK OF INDIA	0.410	0.697	0.819	0.881	0.501
	BANK OF BARODA	0.392	0.620	0.746	0.871	0.526
PrSBs	KARUR VYSYA BANK	0.425	0.686	0.723	0.885	0.588
	INDUSIND BANK	0.394	0.791	0.854	0.947	0.461
	JAMMU & KASHMIR BANK	0.408	0.642	0.780	0.903	0.523
FSBs	BANK OF BAHARIN AND KUWAIT	0.227	0.340	0.432	0.872	0.522
	OMAN INTERNATIONAL BANK	0.397	0.604	0.617	0.987	0.657

	HSBC	0.393	0.697	0.756	0.943	0.520
	Performers					
PSBs	STATE BANK OF HYDERABAD	0.509	0.888	0.957	0.940	0.532
	ANDHRA BANK	0.504	0.821	0.951	0.880	0.531
	BANK OF MAHARASHTRA	0.482	0.797	0.922	0.866	0.523
PrSBs	DHANLAXMI BANK	0.538	0.671	0.832	0.821	0.647
	RATNAKAR BANK LIMITED	0.512	0.664	0.826	0.741	0.620
	SOUTH INDIAN BANK	0.512	0.611	0.899	0.770	0.570
FSBs	BANK OF AMERICA	0.900	0.970	0.981	0.992	0.916
	BARCLAYS BANK	0.866	0.942	0.984	0.963	0.881
	BANK OF NOVA SCOTIA	0.809	0.982	0.987	0.997	0.820

Note: (i) CE, TE and AE stands for cost, technical and allocative efficiencies. (ii) OTE, PTE and STE standsfor overall technical efficiency, pure technical efficiency and scale technical efficiency (iii) For PSBs Q1= 0.419, Q3=0.461; For PrSBs Q1=0.429, Q3=0.499; For FSBs Q10.540, Q3=0.764

Thus, the bank-wise analysis provides various suggestions for the policy makers, as banks need to reduce their input cost by correcting their input mixes with given prices. Since in efficiency is primarily associated with AE measure, thus, managers at bank level are not able to control the factor cost of inputs. Hence, there is need to curtail input cost so as to operate on the efficient frontier. The banks are operating at the idle capacity and are experiencing continuous policy changes during post-deregulation period. Therefore, a check of these parameters is required. The banks especially in public sector group should be provided with the decision making authority, which is missing because of 55.0 per cent shareholding of government in India. Hence, banks need to choose correct input mix to achieve the maximum outputs from the minimum cost of inputs. Thus, cost inefficient

banks can enhance their performance by concentrating more on allocating their productive inputs more efficiently.

Moreover, as per Census 2011, about 40 per cent of households still do not avail banking facilities in India. Therefore, banks should make forward looking strategies, improve customer relationships, diversify the revenue sources, etc., so as to have an impressive performance. The banks falling under the category of foreign sector banks are having large variation in the cost efficiency measures as depicted from the scores of less performers and performers. The banks, under performers, may have decreased the number of branches over the period and hence, able to make the deposit share more and ultimately helping the banks to have a cost efficient banking system. On the other hand, banks falling under the category of less performers are few and new in the banking environment and are not able to cope up with competitive market in the Indian financial system.

15.4 CONCLUSION

The bank astute examination additionally inferred that to huge degree local banks in India have enhanced their use of inputs however are not making the correct blend of inputs given their costs. While are then again, FSBs are moderately improving utilization of inputs along with right blends than their counter gatherings. Moreover, the dimension of variety saw in the normal efficiency scores for FSBs is more than the other two bank bunches for OTE, PTE and SE measure. This might be because of assorted basic leadership proprietorship spread crosswise over different economies of the world. Moreover, the less number of branches working in provincial areas, bolstered with the best in class keeping money advances, effective inclusion of predominant innovation, administrative ability, encounter, may balance the potential cross-outskirt hindrances and lead towards proficient business exercises in the prevailing structure in the Indian managing an account segment. In addition, FSBs seem, by all accounts, to be the most effective pursued by PSBs and PrSBs in India. This recommends the current economic situations have given the chances to remote segment banks with the goal that they can make upper hands, bringing about higher efficiencies. Then again, the conceivable explanation behind the wasteful working of PSBs might be because of the weight of more branches nearness in India, more worry towards social destinations for the distribution of credits, benefit quality and increment in the dimension of rivalry.

REFERENCES

1. BHADRAPPA HARALAYYA , P.S.AITHAL , PERFORMANCE AFFECTING FACTORS OF INDIAN BANKING SECTOR: AN EMPIRICAL ANALYSIS, George Washington International Law Review, Vol.- 07 Issue -01, April-June 2021, PAGE No : 607-621.
2. BHADRAPPA HARALAYYA , P.S.AITHAL , TECHNICAL EFFICIENCY AFFECTING FACTORS IN INDIAN BANKING SECTOR: AN EMPIRICAL ANALYSIS, Turkish Online Journal of Qualitative Inquiry (TOJQI), Vol.- 12 Issue -03, June 2021, PAGE No : 603-620,
3. BHADRAPPA HARALAYYA , P.S.AITHAL , IMPLICATIONS OF BANKING SECTOR ON ECONOMIC DEVELOPMENT IN INDIA, George Washington International Law Review, Vol.- 07 Issue -01, April-June 2021, PAGE No : 631-642
4. BHADRAPPA HARALAYYA , P.S.AITHAL ,STUDY ON PRODUCTIVE EFFICIENCY OF BANKS IN DEVELOPING COUNTRY, International Research Journal of Humanities and Interdisciplinary Studies (www.irjhis.com) ,Volume: 2, Issue: 5, May 2021, Page No : 184-194.
5. Bhadrappa Haralayya ; P. S. Aithal . "Study on Model and Camel Analysis of Banking" Iconic Research And Engineering Journals ,Volume 4 ,Issue 11 ,May 2021 Page 244-259.
6. Bhadrappa Haralayya and Aithal, P. S.. “Analysis of cost efficiency on scheduled commercial banks in India”. International Journal of Current Research, Volume 13, Issue 06, June 2021, pp 17718-17725
7. Bhadrappa Haralayya and P. S. Aithal, “A Study On Structure and Growth of Banking Industry in India”, International Journal of Research in Engineering, Science and Management ,Volume 4, Issue 5, May 2021.Page no 225–230.
8. Bhadrappa Haralayya, Retail Banking Trends in India ,International Journal of All Research Education and Scientific Methods (IJARESM), Volume: 9, Issue: 5, Year: May 2021, Page No : 3730-3732.
9. BHADRAPPA HARALAYYA, P.S.AITHAL, FACTORS DETERMINING THE EFFICIENCY IN INDIAN BANKING SECTOR : A TOBIT REGRESSION ANALYSIS", International Journal of Science & Engineering Development Research (www.ijsdr.org), Vol.6, Issue 6, June-2021, page no.1 - 6, ,
10. BHADRAPPA HARALAYYA , P.S.AITHAL , IMPLICATIONS OF BANKING SECTOR ON ECONOMIC DEVELOPMENT IN INDIA, flusserstudies, Volume 30, June 2021,Page No:1068-1080,
11. BHADRAPPA HARALAYYA, P.S.AITHAL, STUDY ON PRODUCTIVE EFFICIENCY OF FINANCIAL INSTITUTIONS, International Journal of Innovative Research in Technology, Volume 8, Issue 1, June-2021 ,Page no: 159 – 164,
12. BHADRAPPA HARALAYYA , STUDY OF BANKING SERVICES PROVIDED BY BANKS IN INDIA, International Research Journal of Humanities and Interdisciplinary Studies (www.irjhis.com), Volume: 2, Issue: 6, Year: June 2021,Page No : 06-12,
13. BHADRAPPA HARALAYYA, P.S.AITHAL , ANALYSIS OF BANK PERFORMANCE USING CAMEL APPROACH", International Journal of Emerging Technologies and Innovative Research (www.jetir.org | UGC

and issn Approved), Vol.8, Issue 5, May-2021, page no 305-314,

14. BHADRAPPA HARALAYYA, P.S.AITHAL, ANALYSIS OF BANK PRODUCTIVITY USING PANEL CAUSALITY TEST, Journal of Huazhong University of Science and Technology, Volume 50, Issue 6, June-2021 , Page no: 1 – 16,
15. BHADRAPPA HARALAYYA, P.S.AITHAL, INTER BANK ANALYSIS OF COST EFFICIENCY USING MEAN, International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET), Volume 10, Issue 6, June-2021 ,Page no: 6391-6397,
16. BHADRAPPA HARALAYYA, P.S.AITHAL , ANALYSIS OF TOTAL FACTOR PRODUCTIVITYAND PROFITABILITY MATRIX OF BANKS BY HMTFP AND FPTFP, Science, Technology and Development Journal, Volume 10, Issue 6, June-2021, Page no: 190-203, Available at: http://journalstd.com/gallery/23-june2021.pdf
17. BHADRAPPA HARALAYYA, P.S.AITHAL , ANALYSIS OF BANKS TOTAL FACTOR PRODUCTIVITY BY AGGREGATE LEVEL, Journal of Xi'an University of Architecture & Technology, Volume 13, Issue 6, June- 2021 ,Page no: 296-314,
18. Bhadrappa Haralayya, P S Aithal, "ANALYSIS OF BANKS TOTAL FACTOR PRODUCTIVITY BY DISAGGREGATE LEVEL", International Journal of Creative Research Thoughts (IJCRT), Volume.9, Issue 6, June 2021, pp.b488-b502,
19. Haralayya B. Importance of CRM in Banking and Financial Sectors Journal of Advanced Research in Quality Control and Management 2021, 6(1): 8-9
20. Haralayya B. How Digital Banking has Brought Innovative Products and Services to India. Journal of Advanced Research in Quality Control and Management 2021; 6(1): 16-18
21. Haralayya B. Top 5 Priorities That will Shape The Future of Retail Banking Industry in India. Journal of Advanced Research in HR and Organizational Management 2021; 8(1&2): 17-18.
22. Haralayya B. Millennials and Mobile-Savvy Consumers are Driving a Huge Shift in The Retail Banking Industry. Journal of Advanced Research in Operational and Marketing Management 2021; 4(1): 17-19
23. Haralayya B. Core Banking Technology and Its Top 6 Implementation Challenges. Journal of Advanced Research in Operational and Marketing Management 2021; 4(1): 25-27
24. Nitesh S Vibhute ; Dr. Chandrakant B. Jewargi ; Dr. Bhadrappa Haralayya . "Study on Non-Performing Assets of Public Sector Banks" Iconic Research And Engineering Journals Volume 4, Issue, 12 June 2021, Page 52-61
25. Haralayya, Dr. Bhadrappa and Saini, Shrawan Kumar, An Overview on Productive Efficiency of Banks & Financial Institution (2018). International Journal of Research, Volume 05 Issue 12, April 2018.
26. Haralayya, Dr. Bhadrappa, Review on the Productive Efficiency of Banks in Developing Country (2018). Journal for Studies in Management and Planning, Volume 04 Issue 05, April 2018,

27. Haralayya, Dr. Bhadrappa, The Productive Efficiency of Banks in Developing Country With Special Reference to Banks & Financial Institution (april 30, 2019).
28. Haralayya, Dr. Bhadrappa, Study on Performance of Foreign Banks in India (APRIL 2, 2016).
29. Haralayya, Dr. Bhadrappa, E-Finance and the Financial Services Industry (MARCH 28, 2014).
30. Haralayya, Dr. Bhadrappa, E-payment - An Overview (MARCH 28, 2014).
31. Bhadrappa Haralayya . "Customer Satisfaction at M/s Sindol Bajaj Bidar" Iconic Research And Engineering Journals, Volume 4 ,Issue 12, June 2021, Page 157-169
32. Bhadrappa Haralayya . "Ratio Analysis at NSSK, Bidar" Iconic Research And Engineering Journals, Volume 4, Issue 12,June 2021, Page 170-182
33. Bhadrappa Haralayya . "Financial Statement Analysis of Shri Ram City Union Finance" Iconic Research And Engineering Journals, Volume 4, Issue 12,June 2021, Page 183-196
34. Bhadrappa Haralayya . "Employee Job Satisfaction at Big Bazaar" Iconic Research And Engineering Journals, Volume 4, Issue 12, June 2021, Page 197-206
35. Bhadrappa Haralayya . "Effect of Branding on Consumer Buying Behaviour at Vijay Bharat Motors Pvt Ltd, Bidar" Iconic Research And Engineering Journals, Volume 4, Issue 12, June 2021, Page 207-222
36. Bhadrappa Haralayya . "Study on Customer Perceptions Guru Basava Motors, Bidar" Iconic Research And Engineering Journals, Volume 4, Issue 12,June 2021, Page 223-231
37. Bhadrappa Haralayya . "Study on Loans and Advances for DCC Bank Main Branch Nayakaman, Bidar" Iconic Research And Engineering Journals, Volume 4, Issue 12, June 2021, Page 232-242
38. Bhadrappa Haralayya . "Work Life Balance of Employees at Karanja Industries Pvt Ltd, Bidar" Iconic Research And Engineering Journals, Volume 4, Issue 12, June 2021, Page 243-254
39. Bhadrappa Haralayya . "Working Capital Management at TVS Motors, Bidar" Iconic Research And Engineering Journals, Volume 4, Issue 12, June 2021, Page 255-265
40. Haralayya, Dr. Bhadrappa, Testing Weak Form Efficiency of Indian Stock Market – An Empirical Study on NSE (April 30, 2021). Emerging Global Strategies for Indian Industry (ISBN: 978-81-910118-7-6), 2021,
41. Bhadrappa Haralayya . "Advertising Effectiveness With Reference to Big Bazaar" Iconic Research And Engineering Journals, Volume 5, Issue 1, July 2021, Page 101-110
42. Bhadrappa Haralayya . "Analysis of Non Performing Asset on Urban Cooperative Bank in India" Iconic Research And Engineering Journals, Volume 5, Issue 1,July 2021, Page 111-121
43. Bhadrappa Haralayya . "Ration Analysis With Reference to DCC Bank" Iconic Research And Engineering Journals, Volume 5, Issue 1, July 2021, Page 122-130
44. Bhadrappa Haralayya . "Consumer Buying Behavior With Reference to Bajaj Auto Ltd" Iconic Research And Engineering Journals, Volume 5, Issue 1, July 2021, Page 131-140
45. Bhadrappa Haralayya . "Sales Promotion With Reference to Yamaha Motor" Iconic Research And

Engineering Journals, Volume 5, Issue 1, July 2021, Page 141-149

46. Bhadrappa Haralayya . "Financial Statement Analysis Using Common Size on Mahindra Sindol Motors" Iconic Research And Engineering Journals, Volume 5, Issue 1, July 2021 , Page 150-159
47. Bhadrappa Haralayya . "Loans And Advances with Reference to PKGB Bank" Iconic Research And Engineering Journals, Volume 5, Issue 1, July 2021, Page 160-170
48. Bhadrappa Haralayya . "Study on Trend Analysis at John Deere" Iconic Research And Engineering Journals, Volume 5, Issue 1, July 2021, Page 171-181
49. Haralayya B, Aithal PS. Study on Cost Efficiency in Indian and Other Countries Experience. Journal of Advanced Research in HR and Organizational Management 2021; 8(1&2): 23-30.
50. Haralayya B, Aithal PS. Study on Theoretical Foundations of Bank Efficiency. . Journal of Advanced Research in Operational and Marketing Management 2021; 4(2): 12-23.
51. Haralayya B, Aithal PS. Study on Profitability Efficiency in Indian and Other Countries Experience. Journal of Advanced Research in Quality Control and Management 2021; 6(2): 1-10.
52. S. Vinoth, Hari Leela Vemula, Bhadrappa Haralayya, Pradeep Mamgain, Mohammed Faez Hasan, Mohd Naved, Application of cloud computing in banking and e-commerce and related security threats, Materials Today: Proceedings, 2021,ISSN 2214-7853, https://doi.org/10.1016/j.matpr.2021.11.121.(https://www.sciencedirect.com/science/article/pii/S2214785321071285).
53. Haralayya B, Jeelan BV, Vibhute NS. Capital Structure and Factors Affecting Capital Structure. J Adv Res Eco Busi Mgmt 2021; 4(2): 4-35.
54. Vibhute NS, Haralayya B, Jeelan BV. Performance Evaluation of Selected Banks using Ratio Analysis. J Adv Res Eco Busi Mgmt 2021; 4(2): 36-44
55. Jeelan BV, Haralayya B, Vibhute NS. A Study on Empirical Analysis of Relationship between FPI and NIFTY Returns. J Adv Res Acct Fin Mgmt 2021; 3(2): 3-22
56. Jeelan BV, Haralayya B, Vibhute NS. A Study on Performance Evaluation of Initial Public Offering (IPO). J Adv Res Pub Poli Admn 2021; 3(2): 12-26.
57. Basha VJ, Haralayya B, Vibhute NS. Analysis of Segment Reporting with Reference to Selected Software Companies. J Adv Res Entrep Innov SMES Mgmt 2021; 4(2): 9-26.
58. Jeelan BV, Haralayya B, Vibhute NS. Co-Movement and Integration among Stock Markets: A Study of 10 Countries. J Adv Res Acct Fin Mgmt 2021; 3(2): 23-38.
59. Jeelan BV, Haralayya B, Vibhute NS. A Comparative Study on Selected Foreign Currencies. J Adv Res Eco Busi Mgmt 2021; 4(2): 45-5
60. Bhadrappa Haralayya . "A Study on Customer Satisfaction at TVS Vanish Motors Bidar" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 117-127

61. Bhadrappa Haralayya . "Consumer Buying Behavior at Kailash Motors Bidar" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 128-137
62. Bhadrappa Haralayya . "Credit Risk of Canara Bank Bidar" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 138-149
63. Bhadrappa Haralayya . "Effect of Branding on Consumer Buying Behaviour in Bharat Ford Bidar" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 150-159
64. Bhadrappa Haralayya . "Employee Engagement at Kharanja Industry Pvt Ltd Humanbad" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 160-170
65. Bhadrappa Haralayya . "Employee Performance Appraisal at Sri Veerabhadreshwar Motors Bidar" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 171-183
66. Bhadrappa Haralayya . "Employees Traning and Development at Mgssk Ltd Bhalki" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 184-196
67. Bhadrappa Haralayya . "Impact of Financial Statement Analysis on Financial Performance in Lahoti Motors Bidar" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 197-206
68. Bhadrappa Haralayya . "Impact of Ratio Analysis on Financial Performance in Royal Enfield (Bhavani Motors) Bidar" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 207-222
69. Bhadrappa Haralayya . "Sales Promotion at Keshva Enterprise Bidar" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 223-232
70. Bhadrappa Haralayya . "The Impact of Safety and Health Measures of Employees at KJD Pharma Bidar" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 233-242
71. Bhadrappa Haralayya . "Comparative Analysis of Mutual Funds in Geojit Financial Services Ltd Gulbarga" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 243-251
72. Bhadrappa Haralayya . "Cost Analysis at MGSSK Bhalki" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 252-258
73. Bhadrappa Haralayya . "Employee Compensation Management at Vani Organic Pvt Ltd Bidar" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 259-266
74. Bhadrappa Haralayya . "Employees Performance Appraisal of Chettinad Cement Gulbarga" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 267-277
75. Bhadrappa Haralayya . "Ratio Analysis in Muthoot Finance Ltd Aurad" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 278-284
76. Bhadrappa Haralayya . "Study on Promotion Mix Strategy Towards Big Bazaar Bidar" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 285-291
77. Bhadrappa Haralayya . "Study on Sales Promotion Techniques Used by VKG Bajaj at Kalaburagi" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 292-298

78. Bhadrappa Haralayya . "Working Capital Management in Hyundai Showroom Bidar" Iconic Research And Engineering Journals Volume 5 Issue 9 2022 Page 299-308
79. Bhadrappa Haralayya "Study on Performance Evaluation of Mutual Funds" Iconic Research And Engineering Journals Volume 5 Issue 10 2022 Page 29-36
80. Bhadrappa Haralayya . "The Performance of Mutual Fund Schemes in The Framework of Risk and Return" Iconic Research And Engineering Journals Volume 5 Issue 10 2022 Page 37-44
81. Bhadrappa Haralayya . "Risk And Return Analysis of Mutual Funds with Reference to Banks" Iconic Research And Engineering Journals Volume 5 Issue 10 2022 Page 45-55
82. Bhadrappa Haralayya . "Comparative Study on Performance Evaluation of Mutual Funds with Reference to Banking Funds" Iconic Research And Engineering Journals Volume 5 Issue 10 2022 Page 56-64